VECTOR®

TVEC012

start-it™

jump-start system

12 VOLT DC POWER SUPPLY
ON/OFF POWER SAFETY SWITCH
DIGITAL VOLTAGE DISPLAY

OWNER'S MANUAL

INCLUDES INSTRUCTIONS FOR 110 VOLT AC POWER INVERTER OPTION

THIS MANUAL CONTAINS IMPORTANT INFORMATION REGARDING SAFETY, OPERATION, MAINTENANCE AND STORAGE OF THIS PRODUCT. BEFORE USE, READ AND UNDERSTAND ALL CAUTIONS, WARNINGS, INSTRUCTIONS AND PRODUCT LABELS, PLUS YOUR VEHICLE'S BATTERY MANUFACTURER GUIDELINES. FAILURE TO DO SO COULD RESULT IN POSSIBLE INJURY OR PROPERTY DAMAGE.

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JUMP-START WARNINGS AND CAUTIONS

1. There is risk of explosive gas being released when batteries are improperly charged or discharged. Failure to follow instructions may cause property damage, explosion hazard and/or personal injury.
2. Do not smoke while jump-starting.
3. Only attempt to jump-start a vehicle or boat in a well ventilated area.
4. This power system is to be used ONLY on vehicles or boats with 12 volt DC battery systems.
5. Do not wear vinyl clothing when jump-starting a vehicle - friction can cause dangerous static electricity sparks.
6. Remove all metal jewelry - this can cause short circuits. Always use protective eye wear when jump-starting: contact with battery acid may cause blindness and/or severe burns.
7. Do not attempt to jump-start a frozen battery.
8. Keep out of reach of children.
9. Vehicles that have on-board computerized systems may be damaged if vehicle battery is jump-started. Before jump-starting this type of vehicle, read the vehicle's owner manual to confirm that external starting assistance is advised.
10. Excessive engine cranking can damage the vehicle's starter motor. If the engine fails to start after the recommended number of attempts, discontinue jump-start procedure and look for other problems that may need to be corrected.
11. If vehicle to be started has a Negative Grounded System (negative battery terminal is connected to chassis):

    A. Connect positive (POS) (+) red clamp to vehicle battery's POS (+) terminal.

    B. Connect negative (-) black clamp to vehicle chassis or a solid, non-moving, metal vehicle component or body part. DO NOT clamp directly to positive battery terminal or moving part. If vehicle to be started has a Positive Grounded System (positive battery terminal is connected to chassis): Replace steps 11A and 11B (above) of the jump-start procedure with the following steps A and B, and then proceed to step 11.

    A. Connect negative (-) black clamp to vehicle battery's negative terminal.

    B. Connect positive (+) red clamp to vehicle chassis or a solid, non-moving, metal vehicle component or body part.
    DO NOT clamp directly to positive battery terminal or moving part.
12. IF YOU HEAR AN AUDIBLE ALARM AND SEE THE RED LED LIGHT - DO NOT TURN ON THE SAFETY SWITCH - THE POLARITY IS REVERSED. INTERCHANGE CLAMP POSITIONS.
13. Replace worn or defective parts immediately - contact Vector Technical Support Department at (954) 584-4446 or toll free at 866-584-5504.
14. Skin: if battery acid comes in contact with skin, rinse immediately with water, then wash thoroughly with soap and water. If redness, pain, or irritation occurs, seek immediate medical attention.
15. Eyes: if battery acid comes in contact with eyes, flush eyes immediately for a minimum of 15 minutes, seek immediate medical attention.

GENERAL WARNINGS

- NEVER immerse Start-It in water - it is water-resistant, not waterproof.
- When recharging the unit near water (pool, dockside, beach, etc.) do not allow the electrical cords and outlets to get wet or come near water — electrical shock could result! Use GFCI AC receptacles.
- Jump-starter is NOT designed to be used instead of a vehicular battery.
- NEVER insert anything other than the supplied power/recharging cables or recommended appliance power/recharging cables into the charging/power sockets on this unit.

ALL WIRES, CABLES AND CORDS MUST BE POSITIONED SO THAT THEY CANNOT BE TRIPPED OVER OR DAMAGED BY MOVING PARTS, BY PINCHING OR ABRADING.

TWO YEAR LIMITED WARRANTY REGISTRATION FORM

This limited warranty program is the only one that applies to this product, and it sets forth all the responsibilities of Vector Manufacturing, Ltd., regarding this product. There is no other warranty, other than those described herein.

This Vector Manufacturing, Ltd. product is warranted, to the original purchaser only, to be free of defects in materials and workmanship for two years from the date of purchase without additional charge. The warranty does not extend to subsequent purchasers or users. Vector Manufacturing, Ltd. will not be responsible for any amount of damage in excess of the retail purchase price of the product under any circumstances. Incidental and consequential damages are specifically excluded from coverage under this warranty.

This product is not intended for commercial use. This warranty does not apply to accessories or damage to units from misuse or incorrect installation. Misuse includes wiring or connecting to improper polarity power sources.

RETURN/REPAIR POLICY: Defective products, other than accessories, may be returned postage prepaid to Vector Manufacturing. Any defective product, other than accessories, that is returned to Vector Manufacturing within 30 days of the date of purchase, will be replaced free of charge. If such a product is returned more than 30 days, but less than two years, from the purchase date, Vector Manufacturing will repair the unit or, at its option, replace it free of charge. If the unit is repaired, new or reconditioned replacement parts may be used, at Vector Manufacturing's option. A unit may be replaced with a new or reconditioned unit of the same or comparable design. The repaired or replaced unit will then be warranted under the terms of the remainder of the warranty period. The customer is responsible for the shipping charges on all returned items after 30 days. During the warranty period, Vector Manufacturing, Ltd. will be responsible for the return shipping charges.

LIMITATIONS: This warranty does not cover accessories, bulbs, fuses and batteries, defects resulting from normal wear and tear (including chips, scratches, abrasions, discoloration or fading due to usage or exposure to sunlight), accidents, damage during shipping to our service facility, alterations, unauthorized use or repair, neglect, misuse, abuse, failure to follow instructions for care and maintenance, fire, flood and Acts of God.

If your problem is not covered by this warranty, call our Technical Support Department at (954) 584-4446 or toll free at 866-584-5504 for general repair information and charges if applicable. You may also contact us through our website at www.vectormfg.com.

STATE LAW RIGHTS: This warranty gives you specific legal rights. Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the exclusions or limitations stated herein may not apply. This warranty gives the purchaser specific legal rights; other rights, which vary from state to state, may apply.

TO REQUEST WARRANTY SERVICE FOR THIS PRODUCT: Contact Vector Manufacturing Technical Support by telephone, fax or mail. We suggest that you keep the original packaging in case you need to ship the unit. When returning a product, include your name, address, phone number, dated sales receipt (or copy) and a description of the reason for return and product serial number. After repairing or replacing the unit, we will make every effort to return it to you within four weeks.

WARRANTY ACTIVATION: Please complete Warranty Activation Card and mail to Vector Manufacturing. Enter "TVEC012" as Model. All Vector Manufacturing, Ltd. products must be registered within (30) days of purchase to activate this warranty. Mail the completed registration form, along with a copy of the original sales receipt to:

ATTN.: CUSTOMER SERVICE / VECTOR MANUFACTURING, Ltd.
4140 SW 28th Way, Ft. Lauderdale, FL 33312
PH: 954-584-4446 • TOLL FREE: 866-584-5504 • Fax: 954-584-5556.
You may also contact us at our web site www.vectormfg.com

☐ Please activate my Limited Warranty for Model TVEC012
I have enclosed a copy of the original sales receipt.

Name . . . . . .

Street Address . . . . . .

City . . . . . .State . . . . . .Zip code . . . . . .

Phone . . . . . .Fax . . . . . .

E-mail . . . . . .

Item Purchased . . . . . .

Date of Purchase . . . . . .Store Where Purchased . . . . . .

UPC Number from package (12 digits) . . . . . .

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CONTENTS

1. Introduction 2
1.1. Additional Key Features 3
1.2. Use The Start-It To: 3,4
2. Us As A Jump-start System 4
2.1. Review Of Jump-start Warnings And Cautions 4,5
2.2. Jump-start Procedure 5
3. Use As A 12 Volt DC Portable Power Supply 5,6
4. Charging/Recharging 6
4.1. AC Recharge 6
4.2. DC Recharge 6,7
5. Maintenance/Replacement Parts 7
6. Battery Disposal 7
7. Specifications 7
8. Warranty 8

1. INTRODUCTION

Congratulations on selecting the Vector™ Model TVEC012 Start-It Jump-Start System. This system is an advanced power and jump-start system with unique features that set it far above the value and utility of ordinary jump-starters. It supplies DC for 12 Volt appliances to 20 amps. It can jump-start any vehicle with a standard 12 Volt DC electrical system: boat, truck, car, airplane, RV, personal watercraft, snowmobile, tractor, etc.

This advanced design is for serious work during emergencies and it can also enhance your fun by powering DC appliances on the road, at the beach and at camp. Be sure to read and understand all WARNINGS and CAUTIONS before using this product. Please read this guide carefully before use to ensure optimum performance and avoid damage to the system or items that you are using it with.

The built-in LED area light is invaluable when it becomes necessary to locate battery terminals while preparing to jump-start a dead battery in the dark. An audible polarity alarm warns of incorrect connections while preparing to jump-start a dead vehicle battery.

It is also ideal for use with Vector™ 12 Volt DC cordless, portable, rechargeable appliances with ratings up to 20 amperes. For information about Vector appliances, contact Vector™ Customer Service for the location of the nearest retailer.

The unit has an easy-to-read, digital voltmeter that displays the battery level. The digital display activates whenever the charge status pushbutton is pressed and it displays the battery voltage. The display activates automatically during recharge operations to show a circulating pattern. The display shows FULL when the battery is completely charged.

One 12 Volt DC accessory socket is provided for use with appliances that can operate from a 12 Volt DC accessory socket. The DC accessory socket allows for DC recharge from a vehicle or other 12 volt accessory socket. Note that the exposed electrical socket and recharge port have covers that help keep out dirt, dust and moisture. All covers must be open for socket or port use; closed after use.

FIGURE 1 Switches, Indicators and Ports on top Panel

Switches, LED indicators and ports are located on the top panel.

The Safety Power Switch (OFF/ON) is located on the upper right side of the panel. When it is in the OFF position, the cable clamps are not powered and the reverse polarity alarm system is enabled and ready to sound, if connected to an incorrect polarity. A small red LED above the Vector Logo also indicates Reverse Polarity.

On top of the Area Light "dome" is a slide switch that turns the Area Light ON and OFF. The Area Light is powered ON when the ON/OFF slide switch is moved to the right hand side. The Area Light provides the user with light while changing a tire, and connecting battery clamps. The area light is a long lasting lamp and will continuously operate for three days from a fully charged battery.

To the left of the Area Light dome is the Recharging Port. It is covered by a rubber cap that keeps dust, dirt, and moisture out of the socket. The recharge adapter barrel connector plugs into this port during recharge.

The Battery Status Display is a large character, three-digit voltmeter. During AC recharge, the Battery Status Display automatically activates with a circulating pattern. When the battery is fully charged, the display shows FULL. To the left of the digital display is the Battery Level Status Pushbutton. Press this Pushbutton to display the battery voltage. There is a slight delay before the actual battery voltage is displayed.

To the left of the Battery Level Status Pushbutton is a 12 Volt Accessory Socket. It is covered with a rubber protective cap. The cap keeps dust, dirt and moisture out of the socket. When the cap is lifted, the accessory socket can be used for powering 12 volt appliances that draw up to 20 amps current. Figure 2 shows the storage location for the jumper clamps.

FIGURE 2

1.1. Additional Key Features

- ON/OFF safety power switch (no key required, no key to get lost!).
- Cordless/rechargeable-includes recharge adapters for standard 110-volt AC wall socket, and vehicle's 12 Volt DC accessory outlet using adapter cables.
- Powerful-400 instantaneous cranking amps; 1200 peak amps.
- Includes non-spillable, maintenance-free, heavy duty, 19 ampere hour, sealed, lead-acid battery.
- Requires no maintenance (other than recharging) for optimum operation.
- Heavy duty, industrial grade copper clamps and welding grade jumper cables with exclusive cable holsters.
- Exclusive cable storage channels that keep jumper cables out of the way until they are needed.
- 110-volt AC charger is Underwriter Laboratories (UL) safety tested and listed.
- Easy-to-read Digital Battery Status Display - activated by pressing the Charge Status Pushbutton.

1.2. Use the Start-It to:

- Jump-start (using heavy-duty battery cable and clamps): Any vehicle with a standard 12 Volt DC battery system: boat, truck, car, airplane, RV, personal watercraft, snowmobile, tractor, etc.
- Operate (using 20 ampere rated 12 Volt Accessory Sockets): 12 Volt DC Fans, fluorescent work lights, cellular phones*, air compressors, spotlights, TVs, portable radios, cassette or CD players, and more. *Can quick-charge a cellular phone by using the phone's 12 Volt DC adapter cord.

• Illuminate areas: under the hood, inside tents, work areas while changing tires, etc.

Note that other Vector appliances may also be used with this jump-starter as long as they do not exceed the 20-ampere limit of the jump-starter's 12V DC accessory socket. For AC appliance operation we recommend the Vector VEC023 Power Inverter. It can be purchased separately and it powers AC appliances to 175 Watts.

READ INSTRUCTION MANUAL AND PRODUCT LABELING CAREFULLY, BEFORE USING THIS PRODUCT. FOLLOW RECOMMENDED WARNINGS, CAUTIONS, AND SAFETY PROCEDURES, AND MANUFACTURER'S GUIDELINES FOR YOUR VEHICLE BATTERY.

IMPORTANT

This unit is delivered in a partially charged state - you must fully charge it before using it for the first time. Initial AC Charge should be for 24 hours.

Refer to Section 4 for use of AC/DC Recharge Adapters and detailed charging instructions.

2. USE AS A JUMP-START SYSTEM

Read and understand all Warnings, Cautions and Notes before operating Start-It.

Warnings alert the user to hazardous conditions that can be harmful. Cautions alert the user to conditions that can cause property damage. Notes are important operational information.

2.1 Review of Jump-start Warnings and Cautions

1. There is risk of explosive gas being released when batteries are improperly charged or discharged. Failure to follow instructions may cause property damage, explosion hazard and/or personal injury.
2. Do not smoke while jump-starting.
3. Only attempt to jump-start a vehicle or boat in a well ventilated area.
4. This power system is to be used ONLY on vehicles or boats with 12 volt DC battery systems.
5. Do not wear vinyl clothing when jump-starting a vehicle - friction can cause dangerous static electricity sparks.
6. Remove all metal jewelry - this can cause short circuits. Always use protective eye wear when jump-starting: contact with battery acid may cause blindness and/or severe burns.
7. Do not attempt to jump-start a frozen battery.
8. Keep out of reach of children.
9. Vehicles that have on-board computerized systems may be damaged if vehicle battery is jump-started. Before jump-starting this type of vehicle, read the vehicle's owner's manual to confirm that external starting assistance is advised.
10. Excessive engine cranking can damage the vehicle's starter motor. If the engine fails to start after the recommended number of attempts, discontinue jump-start procedure and look for other problems that may need to be corrected.

IF YOU HEAR AN AUDIBLE ALARM AND SEE THE RED LED LIGHT - DO NOT TURN ON THE SAFETY SWITCH - THE POLARITY IS REVERSED. INTERCHANGE CLAMP POSITIONS.

11. If vehicle to be started has a Negative Grounded System (negative battery terminal is connected to chassis):
    A. Connect positive (POS) (+) red clamp to vehicle battery's POS (+) terminal.
    B. Connect negative (-) black clamp to vehicle chassis or a solid, non-moving, metal vehicle component or body part. DO NOT clamp directly to positive battery terminal or moving part.

If vehicle to be started has a Positive Grounded System (positive battery terminal is connected to chassis): Replace steps 11A and 11B (above) of the jump start procedure with the following steps A and B, and then proceed to step 11.

A. Connect negative (-) black clamp to vehicle battery's negative terminal.

B. Connect positive (+) red clamp to vehicle chassis or a solid, non-moving, metal vehicle component or body part. DO NOT clamp directly to positive battery terminal or moving part.

12. Replace worn or defective parts immediately - contact Vector Technical Support Department at (954) 584-4446 or toll free at 866-584-5504.
13. Skin: if battery acid comes in contact with skin, rinse immediately with water, then wash thoroughly with soap and water. If redness, pain, or irritation occurs, seek immediate medical attention.
14. Eyes: if battery acid comes in contact with eyes, flush eyes immediately for a minimum of 15 minutes, seek immediate medical attention.

2.2. Jump-start Procedure

1. Turn Off ignition and all accessories (radio, a/c, lights, cell phone, etc). Place vehicle in "park" and set the emergency brake.
2. Make sure the unit's Power Switch is turned OFF.
3. Observe jump-starting negative or positive ground system, as follows: Negative ground (negative battery terminal connected to chassis) - most common.
4. Make sure Start-It's Power Switch is turned OFF.
5. Carefully lift negative (black) jumper cable wire from storage channel starting at clamp end of cable.
6. Squeeze negative (black) clamp handle and remove clamp from holster.
7. Carefully lift positive (red) jumper cable wire from storage channel starting at clamp end of cable.
8. Squeeze positive (red) clamp handle and remove clamp from holster.
9. Connect positive (+) red clamp to vehicle's positive battery terminal.
10. Connect negative (-) black clamp to chassis or a solid, non-moving, metal vehicle component or body part - never clamp directly to negative battery terminal or moving part.

IF THE REVERSE POLARITY LED OR AUDIBLE ALARM SOUNDS, DO NOT TURN ON THE SAFETY SWITCH. REVERSE THE CLAMP POSITIONS. ONLY TURN ON THE POWER SWITCH WHEN THE AUDIBLE ALARM IS SILENT AND THE RED LED IS NOT LIT.

11. Turn ON unit's Power Switch.
12. Start vehicle (crank engine in 5-6 second bursts). If engine won't start, seek help and go to step 15.
13. After vehicle starts turn the Power Switch to OFF position.
14. Leave engine running.
15. Remove clamps (disconnect the negative (black) clamp first; followed by the positive (red) clamp and store cables and clamps).
16. Squeeze negative (black) clamp handles and slide clamp into holster.
17. Carefully press negative (black) jumper cable wire into storage channel.
18. Squeeze positive (red) clamp handles and slide clamp into holster.
19. Carefully press positive (red) jumper cable wire into storage channel.
20. Recharge Start-It as soon as possible.

3. USE AS A 12 VOLT DC PORTABLE POWER SUPPLY

WARNING - NEVER INSERT A CIGARETTE LIGHTER INTO ACCESSORY SOCKET.

NOTE: Make sure that the Unit's Power Switch is ALWAYS in the OFF position when using the unit's 12 Volt DC accessory outlet.

1. Lift up the cover of the unit 's 12 Volt DC socket.
2. Insert the 12 Volt DC plug from the appliance into the 12V DC accessory socket on the unit.
3. Switch on the appliance, as usual.
4. Periodically press the Battery Level Status Pushbutton to check battery status. When the battery level reads 10.5 volts, you must recharge it as soon as possible.

CAUTION: DO NOT OPERATE APPLIANCES THAT DRAW MORE THAN 20 AMPS.

4. CHARGING/RECHARGING

Lead-acid batteries require maintenance to maintain a full charge and to ensure good battery life. All lead-acid batteries suffer from self-discharge over time and more rapidly when they are at higher temperatures. Therefore, these types of batteries need periodic charging to replace energy lost through self-discharge. When Start-It is not in use, Vector recommends that the batteries be recharged at least every 60 days using the AC/DC Recharge Adapter.

NOTE: During recharge a circulating pattern is display on the digital display

NOTE: Generally the AC/DC Recharge method ensures full charge, DC recharge can only bring the battery to the voltage of the charging source.

All batteries must be recharged as soon as possible after each use. If a battery is allowed to remain in a discharged state, battery life will be reduced.

NOTE: RECHARGING BATTERY AFTER EACH USE WILL PROLONG BATTERY LIFE; FREQUENT HEAVY DISCHARGES BETWEEN RECHARGES WILL REDUCE BATTERY LIFE. OVERCHARGING WILL REDUCE BATTERY LIFE.

NOTE: PRESSING THE BATTERY LEVEL STATUS Pushbutton TURNS ON THE DIGITAL BATTERY STATUS DISPLAY.

4.1 AC Recharge

AC Recharge requires the use of the supplied AC/DC Adapter. The adapter must be powered from a 110 volt AC, 60 Hz North American standard AC receptacle. The AC/DC recharge adapter barrel connector is inserted into the Recharge Port. Refer to figure 1 for the location of the Recharge Port.

FIGURE 3

Make sure that all switches are turned OFF. Charge the unit, until the Battery Status Displays indicates "FULL". AC recharge is a taper charge and the AC Recharger can be left connected to the Jump-starter for long periods.

4.2 DC Recharge

The Start-It Jump-starter is supplied with a DC Recharge cable. See Figure 4.

Recharging Start-It from an external DC power source requires the use of the DC Recharge Cable. This cable has one large DC plug and one barrel connector. The DC plug is inserted into the ACCESSORY SOCKET of the Start-It; the barrel connector is inserted into the recharge port of the vehicle or other DC source. Periodically check the battery voltage by pressing the Battery Level Status Pushbutton.

FIGURE 4

MAKE SURE ALL SWITCHES ARE IN THE OFF POSITION DURING RECHARGING. THIS MAY SLOW RECHARGE.

To check the battery status, press the Battery Status Display Pushbutton. If the Jump-starter's battery is fully discharged, it is recommended that the host vehicle or boat's engine being used for recharging be left operating while the unit is being charged using the 12 Volt DC/DC method.

WARNING: DO NOT RECHARGE UNIT FOR MORE THAN 8 HOURS MAXIMUM USING 12 VOLT DC METHOD.

5. MAINTENANCE/REPLACEMENT PARTS

For replacement parts, charging adapters, cables, etc., contact Vector™ Technical Support: (954) 584-4446. There are no user serviceable parts inside Start-It. Periodically, the cables and connectors should be inspected for damage, corrosion, dust and dirt. If surfaces are dirty, they can be wiped clean with a cloth moistened with water and a drop of detergent. Clamp contacts can be wiped clean with a dry cloth.

WARNINGS

THERE ARE NO USER SERVICEABLE PARTS INSIDE. DO NOT OPERATE UNIT IF THERE IS ANY EVIDENCE OF DAMAGE. THE PRODUCT MUST BE RETURNED TO VECTOR FOR TESTING AND REPAIR. REPLACE ANY DAMAGED CABLES AND CHARGING ADAPTERS IMMEDIATELY BEFORE FURTHER USE.

6. SAFE BATTERY DISPOSAL

Contains a maintenance-free, sealed, non-spillable, lead acid battery, which must be disposed of properly. Recycling is required -contact your local authority for information. Failure to comply with local, state and federal regulations can result in fines, or imprisonment. For more information on recycling this battery, call toll-free 1-877-288-7722

Battery Disposal Warnings

- Do not dispose of the battery in fire as this may result in an Explosion.
- Before disposing of the battery, protect exposed terminals with heavy-duty electrical tape to prevent shorting (shorting can result in injury or fire).
- Do not expose battery to fire or intense heat as it may explode.

7. SPECIFICATIONS

Jump-start Clamps	400 Amps - Heavy Duty Copper
Jumper Cables	Heavy Duty Welding Cable
Peak Amps	1200
Instant Amps	400
Battery	12 Volt 19 Amp Hour, Sealed Lead-Acid
Area Light	Three High Intensity White LEDs
Accessory Socket Protection	20 Amp Self-Resetting Breaker
AC/DC Recharge Adapter	12 Volt DC@700 mA
Height	12.75 in (32.39 cm)
Width	11.00 in (11.26 cm)
Depth	5.5 in (13.97 cm)
Weight	16 lbs (7.26 kg)

VECTOR MANUFACTURING, Ltd.
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